Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A holographic recording method for recording information as phase information of light by projecting a signal beam and a reference beam onto a recording medium, wherein an X direction is defined as the direction of a line of intersection between a plane including the optical axes of the signal beam and reference beam (incidence plane) and the recording plane of the recording medium, and the Y direction is defined as the direction of a line lying normal to the incidence plane and intersecting said line of intersection, comprising steps of:

using the reference beam modulated with a first phase code to record a first hologram at a predetermined position; and

using the reference beam modulated with a second phase code whose pattern is different from that of the first phase code to record at a position shifted in the Y direction a second hologram that partially overlaps the first hologram.

2. (Original) A holographic recording method in accordance with Claim 1 further comprising a step of using the reference beam modulated with a third phase code whose pattern is different from that of the first and second phase codes to record at a position shifted in the Y direction a third hologram that partially overlaps the first and second holograms,

wherein a correlation between the third phase code and the second phase code being set lower than a correlation between the third phase code and the first phase code.

3. (Original) A holographic recording method in accordance with Claim 1 including a step of using the reference beam modulated with the first phase code to record at position shifted to the X direction a fourth hologram that partially overlaps the first hologram.

4. (Original) A holographic recording method in accordance with Claim 2 including a step of using the reference beam modulated with the first phase code to record at position shifted to the X direction a fourth hologram that partially overlaps the first hologram.

5. (Currently Amended) A holographic recording method for recording information as phase information of light by projecting a signal beam and a reference beam onto a recording medium, wherein an X direction is defined as the direction of a line of intersection between a plane including the optical axes of the signal beam and reference beam (incidence plane) and the recording plane of the recording medium, and the Y direction is defined as the direction of a line lying normal to the incidence plane and intersecting said line of intersection, comprising a step of recording holograms by shift multiplexing at least in the Y direction and using phase code multiplexing in combination with the shift ~~code~~ multiplexing in the Y direction.

6. (Currently Amended) A holographic recording method in accordance with Claim 5, wherein ~~the~~ phase codes used in the phase code multiplexing have lower correlation with increasing overlap between two holograms recorded by shift multiplexing in the Y direction.

7. (Original) A holographic recording method in accordance with Claim 5, wherein orthogonal phase codes are used for holograms adjacent along the Y direction.

8. (Original) A holographic recording method in accordance with Claim 6, wherein orthogonal phase codes are used for holograms adjacent along the Y direction.

9. (Original) A holographic recording method in accordance with Claim 4, wherein the holograms are recorded along both the X direction and Y direction by shift multiplexing.

10. (Original) A holographic recording method in accordance with Claim 5, wherein the holograms are recorded along both the X direction and Y direction by shift multiplexing.

11. (Original) A holographic recording method in accordance with Claim 6, wherein the holograms are recorded along both the X direction and Y direction by shift multiplexing.

12. (Original) A holographic recording method in accordance with Claim 7, wherein the holograms are recorded along both the X direction and Y direction by shift multiplexing.

13. (Original) A holographic recording method in accordance with Claim 9, wherein the same phase code is used for holograms recorded along the X direction.

14. (Original) A holographic recording method in accordance with Claim 10, wherein the same phase code is used for holograms recorded along the X direction.

15. (Original) A holographic recording method in accordance with Claim 11, wherein the same phase code is used for holograms recorded along the X direction.

16. (Original) A holographic recording method in accordance with Claim 12, wherein the same phase code is used for holograms recorded along the X direction.

17. (Original) A holographic recording method in accordance with Claim 9, wherein two or more different phase codes are used for holograms recorded along the X direction.

18. (Original) A holographic recording method in accordance with Claim 10, wherein two or more different phase codes are used for holograms recorded along the X direction.

19. (Original) A holographic recording method in accordance with Claim 11, wherein two or more different phase codes are used for holograms recorded along the X direction.

20. (Original) A holographic recording method in accordance with Claim 12, wherein two or more different phase codes are used for holograms recorded along the X direction.

21. (Original) A holographic recording method in accordance with Claim 5, wherein the recording medium is a disk, and the X direction and Y direction are the tracking direction and the radial direction of the disk, respectively.

22. (Currently Amended) A holographic recording device for recording information as phase information of light by projecting a signal beam and a reference beam onto a recording medium comprising:

a laser beam source;

a beam splitter for dividing the beam from the laser beam source;

a spatial light modulator for generating a signal beam containing information by modulating the intensity of one divided beam;

a phase spatial light modulator for generating a reference beam by modulating the phase of the other divided beam with a predetermined phase code; and

a controller for controlling the incidence position of the signal beam and reference beam on the recording medium;

wherein,

an X direction is defined as the direction of a line of intersection between an incidence plane including the optical axes of the signal beam and reference beam and the recording plane of the recording medium,

a Y direction is defined as the direction of a line perpendicular to the incidence plane,

and the controller records holograms by shift multiplexing at least in the Y direction and using phase code multiplexing in combination with the shift multiplexing in the Y direction.

23. (New) A holographic recording method comprising:

projecting a signal beam and a reference beam onto a recording medium;

modulating the reference beam with a first phase code to generate a first hologram;

recording the first hologram at a first position;

modulating the reference beam with a second phase code having a pattern different from that of the first phase code to generate a secured hologram;

recording the second hologram at a second position shifted in a radial direction relative the first position so that the second hologram partially overlaps the first hologram; and

modulating the reference beam with a third phase code having a pattern different from that of the first and second phase codes to generate a third hologram;

recording the third hologram at a third position shifted in a radial direction relative the first and second positions so that the third hologram partially overlaps the first and second holograms.

24. (New) The holographic recording method of claim 23, further comprising:

shifting a fourth hologram in a track direction to partially overlap the first hologram.